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## EQUATORIAL WAVE REGIME AND ROSSBY SOLITONS OBSERVED BY TOPEX/POSEIDON

R.E. GLAZMAN (Jet Propulsion Laboratory, California Institute of Technology, M/S 300-323, 4800 Oak Grove Drive, Pasadena CA, 91109-8099, U.S.A., [reg@pacific.jpl.nasa.gov](mailto:reg@pacific.jpl.nasa.gov)); W. C. Patzert (Jet Propulsion Laboratory, California Institute of Technology, M/S 300-323, 4800 Oak Grove Drive, Pasadena CA, 91109-8099, U.S.A., [wpatzert@pacific.jpl.nasa.gov](mailto:wpatzert@pacific.jpl.nasa.gov) )

Using the eight years of Topex/Poseidon altimeter observations, a detailed statistical characterization of major components of equatorial Pacific dynamics on timescales a few months to a few years and spatial scales from about 800 km and longer is presented based on spectral analysis of ungridded sea surface height (SSH) measurements. A wide variety of zonally propagating components of SSH variability, as well as non-propagating (steric-related) variations are clearly identified in the wavenumber-frequency spectral plane. In addition to the four well-known types of oscillations (with semi-annual, annual, 1.5-year and 3-year timescales), we find appreciable energy in baroclinic Rossby waves with periods near seven and nine months. Meridional variations of amplitudes, phase speeds and other properties of various wave systems are analyzed, and contributions of individual vertical and lateral modes are estimated. Of special interest is an increase in the amplitude of semi-annual Rossby waves at about 9°N. Among other results, the analysis confirms an earlier finding that some of these systems represent equatorial solitons or modons.